

IN THE CLAIMS:

The text of all pending claims 1-17 and 20-25 is set forth below. None of the claims are amended herein. The status of each claim is indicated with one of (previously presented) or (cancelled).

1. (previously presented) A coordinate input device having a polygonal wheel having plural sides, as a circumferential edge thereof, and which is rotatable about a first axis, comprising:

a plurality of rotating bodies, each of the rotating bodies disposed along a corresponding one of the plural sides and rotating along with the corresponding one of the plural sides of said polygonal wheel about the first axis and each of the rotating bodies rotatable about the corresponding one of the plural sides of said polygonal wheel as a second axis, which is different from the first axis such that the polygonal wheel and the plurality of rotating bodies rotate about the first axis;

rotating body rotating state detection means for detecting a rotating state of said rotating bodies;

wheel rotating state detection means for detecting a rotating state of said polygonal wheel;

a format change-over switch; and

data transmission means for transmitting information detected by each of said respective detection means as a set of operation instructions for a computer and adapted to effect transmission in a first format when said format change-over switch is not depressed and to effect another transmission in a second format when said format change-over switch is depressed.

2. (previously presented) A coordinate input device having a polygonal wheel having plural sides, as a circumferential edge thereof, and which is rotatable about a first axis, comprising:

a plurality of rotating bodies, each of the rotating bodies disposed along a corresponding one of the plural sides and rotating along with the corresponding one of the plural sides of said polygonal wheel about the first axis and each of the rotating bodies rotatable about the corresponding one of the plural sides of said polygonal wheel as a second axis, which is different from the first axis such that the polygonal wheel and the plurality of rotating bodies rotate about the first axis;

ball moving state detection means for detecting a moving state of a ball;

click switch operating state detection means for detecting an operating state of a click switch;

wheel rotating state detection means for detecting a rotating state of said polygonal wheel;

a format change-over switch; and

data transmission means for transmitting respective pieces of information detected by said respective detection means as a set of operation instructions for a computer and adapted to effect transmission in a first format when said format change-over switch is not depressed and to effect another transmission in a second format when said format change-over switch is depressed.

3. (previously presented) The coordinate input device as set forth in claim 1, wherein said coordinate input device has a left click switch as a first switch and a right click switch as a second switch, said coordinate input device further comprising:

a third switch disposed as a lower portion of said polygonal wheel;

a wheel support portion having a construction to support said polygonal wheel and to allow said polygonal wheel to slide and adapted to drive said third switch by depressing said polygonal wheel downwardly; and

third switch operating state detection means for detecting the operating state of said third switch.

4. (previously presented) The coordinate input device as set forth in claim 3, wherein

said wheel support portion further comprises a ratchet construction on a side of said polygonal wheel, and wherein

said polygonal wheel is adapted to fit in said ratchet construction.

5. (previously presented) The coordinate input device as set forth in claim 1, wherein

an inner wall at a center of said respective rotating bodies through which said circumferential edge of said polygonal wheel is put has a locking construction, and wherein

said circumferential edge of said polygonal wheel is adapted to fit in a second locking construction.

6. (previously presented) The coordinate input device as set forth in claim 1, wherein said rotating body is of a cylindrical configuration.

7. (previously presented) The coordinate input device as set forth in claim 1,

wherein said rotating body is of a spherical configuration.

8. (previously presented) The coordinate input device as set forth in claim 1, wherein a surface of said rotating bodies is covered with a slip preventive material.

9. (previously presented) The coordinate input device as set forth in claim 1, wherein a recess is formed in a surface of said rotating bodies.

10. (previously presented) The coordinate input device as set forth in claim 1, wherein said coordinate input device further comprises:

ball moving state detection means for detecting a moving state of a ball; and

click switch operating state detection means for detecting an operating state of a click switch.

11. (previously presented) A coordinate input device having a polygonal wheel having plural sides, as a circumferential edge thereof, and which is rotatable about a first axis, comprising:

a plurality of rotating bodies, each of the rotating bodies disposed along a corresponding one of the plural sides and rotating along with the corresponding one of the plural sides of said polygonal wheel about the first axis and each of the rotating bodies rotatable about the corresponding one of the plural sides of said polygonal wheel as a second axis, which is different from the first axis such that the polygonal wheel and the plurality of rotating bodies rotate about the first axis;

rotating body rotating state detection means for detecting a rotating state of said rotating bodies;

a wheel rotating state detection unit detecting a rotating state of said polygonal wheel;

a format change-over switch; and

a data transmission unit transmitting information detected by each of said respective detection units as a set of operation instructions for a computer and adapted to effect transmission in a first format when said format change-over switch is not depressed and to effect another transmission in a second format when said format change-over switch is depressed.

12. (previously presented) A coordinate input device having a polygonal wheel having plural sides, as a circumferential edge thereof, and which is rotatable about a first axis, comprising:

a plurality of rotating bodies, each of the rotating bodies disposed along a corresponding

one of the plural sides and rotating along with the corresponding one of the plural sides of said polygonal wheel about the first axis and each of the rotating bodies rotatable about the corresponding one of the plural sides of said polygonal wheel as a second axis, which is different from the first axis such that the polygonal wheel and the plurality of rotating bodies rotate about the first axis;

a rotating body rotating state detection unit detecting a rotating state of said rotating bodies;

a ball moving state detection unit detecting a moving state of a ball;

a click switch operating state detection unit detecting an operating state of a click switch;
a wheel rotating state detection unit detecting a rotating state of said polygonal wheel;
a format change-over switch; and

a data transmission unit transmitting respective pieces of information detected by said respective detection units as a set of operation instructions for a computer and adapted to effect transmission in a first format when said format change-over switch is not depressed and to effect another transmission in a second format when said format change-over switch is depressed.

13. (previously presented) The coordinate input device as set forth in claim 11, wherein said coordinate input device has a left click switch as a first switch and a right click switch as a second switch, said coordinate input device further comprising:

a third switch disposed as a lower portion of said polygonal wheel;

a wheel support portion to support said polygonal wheel and to allow said polygonal wheel to slide and adapted to drive said third switch by depressing said polygonal wheel downwardly; and

a third switch operating state detection unit detecting the operating state of said third switch.

14. (previously presented) The coordinate input device as set forth in claim 13, wherein said wheel support portion further comprises a ratchet construction on a side of said polygonal wheel, and wherein said polygonal wheel is adapted to fit in said ratchet construction.

15. (previously presented) The coordinate input device as set forth in claim 11, wherein an inner wall at a center of said respective rotating bodies through which said circumferential edge of said polygonal wheel is put has a locking construction, and wherein said circumferential edge of said polygonal wheel is adapted to fit in a second locking construction.

16. (previously presented) The coordinate input device as set forth in claim 11,

wherein said rotating body is of a cylindrical configuration.

17. (previously presented) The coordinate input device as set forth in claim 11, wherein said rotating body is of a spherical configuration.

18. (cancelled)

19. (cancelled)

20. (previously presented) The coordinate input device as set forth in claim 11, wherein a surface of said rotating bodies is covered with a slip preventive material.

21. (previously presented) The coordinate input device as set forth in claim 11, wherein a recess is formed in a surface of said rotating bodies.

22. (previously presented) A coordinate input device, comprising:

a plurality of rotating bodies;

a polygonal wheel having plural sides, the polygonal wheel being rotatable about a center thereof, as a first axis, each of the plural sides of the polygonal wheel couples to a respective one or ones of the plurality of rotating bodies such that each of the rotating bodies rotates with the corresponding one of the plural sides about the first axis, and is rotatable about the corresponding one of the plural sides of said polygonal wheel, as a second axis, which is different from the first axis such that the polygonal wheel and the plurality of rotating bodies rotate about the first axis; and

a processing unit to detect and to output at least one of a rotating state of the polygonal wheel and a respective one of the rotating bodies which is being rotated.

23. (previously presented) The coordinate input device as set forth in claim 22, wherein each of the rotating bodies rotatably couples to only the corresponding one of the plural sides of the polygonal wheel.

24. (previously presented) A coordinate input device, comprising:

a plurality of rotating bodies;

a polygonal wheel having plural sides to rotate in a first direction, each of the rotating bodies being rotationally attached to a corresponding one of the plural sides to rotate in a second direction perpendicular to the first direction for multi-axial coordinate input; and

a processing unit to detect and to output at least one of a rotating state of the polygonal wheel and a respective one of the rotating bodies which is being rotated.

25. (previously presented) A coordinate input device, comprising:
 - a polygonal wheel having rotating bodies thereon rotating in a direction perpendicular to a wheel rotation direction for multi-axial coordinate input; and
 - a processing unit to detect and to output at least one of a rotating state of the polygonal wheel and a respective one of the rotating bodies which is being rotated.